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ABSTRACT

Intelligence quotient (IQ) differences among groups according to sex, and demographic and other variables have been explored for a variety of intelligence tests. This investigation analyzed data from the standardization sample for the 1981 Wechsler Adult Intelligence Scale-Revised (WAIS-R) to determine the relationship of WAIS-R IQs to the demographic variables upon which the sample was stratified. The sample was made up of 1,880 adults stratified according to sex and age (equal numbers of male and females within nine age groups), race, occupation, urban-rural residence, geographic region, and education. There were 1,664 whites and 216 nonwhites. The nonwhites included 192 blacks and 24 persons from other nonwhite groups. Means and standard deviations were computed, compared, and reported for verbal, performance, and full scale IQs. The differences on mean IQs due to sex, urban-rural residence, and geographic regions were slight. However, there were substantial differences due to race, occupation, and education. There was a 14 to 15 point difference in favor of whites between the WAIS-R IQs of whites and blacks. There was a 17.5 to 22.4 point difference between the WAIS-R IQs of the highest and lowest ranked occupations. There was a 26.7 to 33.5 point difference bewtween the WAIS-R IQs of the highest and lowest categories of educational attainment. (Author/JAC)

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An Analysis of WAIS-R Performance by Sample Stratification Variables Used During Standardization

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Running head: ANALYSIS OF WAIS-R PERFORMANCE

Abstract

The goal of the present investigation was to analyze data from the standardization sample for the 1981 Wechsler Adult Intelligence Scale-Revised (WAIS-R) to determine the relationships of WAIS-R IQs to the demographic variables upon which the sample was stratified. The sample included 1880 adults stratified according to sex and age (equal numbers of males and females within nine age groups), race, occupation, urban-rural residence, geographic region, and education. There were 1664 whites and 216 nonwhites. The nonwhites included 192 blacks and 24 from other nonwhite groups. Means and standard deviations were computed, compared, and reported for verbal, performance, and full scale IQs. The differences on mean IQs due to sex, urban-rural residence, and geographic regions were slight. However, there were substantial differences due to race, occupation, and education. There was a 14 to 15 point difference in favor of whites between the WAIS-R IQs of whites and blacks. There was a 17.5 to 22.4 difference between the WAIS-R IQs of the highest and lowest ranked occupations. There was a 26.7 to 33.5 point difference between the WAIS-R IQs of the highest and lowest categories of educational attainment.

An Analysis of WAIS-R Performance by Sample Stratification Variables Used During Standardization

Robert L. Chastain and Cecil R. Reynolds

The IQ differences among groups according to sex, socioeconomic status, residence (geographic region and urban-rural), and other variables have been explored for a variety of intelligence tests (Anastasi, 1958; Tyler, 1965). Kaufman and Doppelt (1976) analyzed the data from the standardization sample for the 1974 Wechsler Intelligence Scale for Children-Revised (WISC-R) to determine the relationship of WISC-R IQs to sex, occupation of head of household, urban-rural residence, and geographic region for white and black children separately. The present study replicates and extends the study of WISC-R IQs (Kaufman & Doppelt, 1976) using the Wechsler Adult Intelligence Scale-Revised (WAIS-R). Therefore, the goal of the present study was to analyze the data from the standardization sample for the 1981 WAIS-R to determine the relationships of WAIS-R verbal, performance, and full scale IQs to age, sex, education, occupation, urban-rural residence, and geographic region.

Method

Subjects

The sample included the 1880 adults in the WAIS-R standardization sample which was stratified by sex according to nine age groups: 1) 16-17 years with 100 males and 100 females; 2) 18-19 years with 100 males and 100 females; 3) 20-24 years with 100 males and 100 females; 4) 25-34 years with 150 males and 150 females; 5) 35-44 years with 125 males and 125 females; 6) 45-54 years with 125 males and 125 females;

7) 55-64 years with 80 males and 80 females; 8) 65-69 years with 80 males and 80 females; and 9) 70-74 years with 80 males and 80 females. In addition to the variables of sex and age, the sample was stratified on the variables of race, education, urban-rural residence, and geographic region.

Procedure

Means, standard deviations, minimums, maximums, standard errors of the means, variances, and coefficients of variation were computed on verbal, performance, and full scale IQs: 1) by sex for each age stratum, all ages combined, and white and black adults, separately; 2) by age and sex for blacks and whites separately; 3) by sex and race for each of the six occupational groups defined in the WAIS-R manual (Wechsler, 1981); 4) by sex and race for urban-rural residence; 5) by sex and race for each of the four geographic regions; and 6) by sex and race for each of six educational groups defined in the WAIS-R manual (Wechsler, 1981). The WAIS-R standardization (N=1880) included 1664 white and 216 nonwhite adults. The nonwhites were 192 black adults and 24 from other nonwhite groups. Although the data for separate racial groups were based on the 1664 whites and 192 blacks, the 24 other nonwhites were included in the total sample.

Results and Discussion

Sex and Race Differences

Table 1 presents means and standard deviations of the WAIS-R IQs for males and females by age level and race. For the total group, males' mean IQs were approximately 2.2, 1.4, and 2.2 points higher than females' mean verbal, performance, and full scale IQs, respectively. These differences are virtually identical to the

differences in children found for the 1949 WISC and 1974 WISC-R. Males' variability ranged from standard deviations of 13.1 to 16.3 while females' variability ranged from 13.6 to 16.6. This is a reversal from the variabilities of boys and girls on the WISC-R IQs. Age by age, males had higher WAIS-R IQs than females in 9 of the 9 age groups for verbal IQ, in 7 of the 9 age groups for performance IQ, and in 8 of the 9 age groups for full scale IQ. The differences (mean IQ for males minus mean IQ for females) ranged from .7 to 3.9, -1.5 to 2.6, and 1.3 to 3.8 on verbal, performance, and full scale IQs, respectively.

The data for separate groups of blacks and whites show that black males and females had approximately equal IQs on the three scales; the differences were only .7 on verbal IQ, 1.3 on performance IQ, and .9 on full scale IQ. For the whites, the point differences between males and females were larger with 2.1, 2.8, and 2.0 for verbal, performance, and full scale IQs, respectively. There is also a 14 to 15 point difference in favor of whites between the WAIS-R IQs of whites and blacks. This same magnitude of difference (about 1 SD) has been observed for a wide variety of individual and group intelligence tests (Tyler, 1965; Kaufman & Doppelt, 1976).

For the total group of 940 males and 940 females, the mean IQ differences in favor of males may not be meaningful in a practical sense. An overall difference of 2.2 points with a standard deviation of 15 may be considered basically equivalent for practical applications. Therefore, for all intents and purposes, the means and standard deviations of IQs for males and females may be considered the same on all three WAIS-R scales. This finding is the same as for the WISC-R IQs for boys and girls (Kaufman & Doppelt, 1976).

In Table 2 mean WAIS-R IQs are reported for blacks and whites by sex within each age stratum. Although the number of black males or females within a certain age stratum were quite low (N=5 black males and N=7 black females in age stratum 70 to 74 years), the results were quite interesting. Black females had higher mean WAIS-R IQs than black males in the age strata of 16-17 years, 25-34 years, 35-44 years (except performance IQ), and 65-69 years. White females had higher WAIS-R IQs than white males in the stratum 18-19 years and higher performance IQ in the stratum of 70-74 years. Although these differences were not large, ranging from .7 to 4.8 points, this was a reversal of the normal 2 point advantage of males over females. Curiously, in the strata for which black females had higher IQs than black males, white females have lower IQs than white males. The reverse is true when white females had higher IQs than white males, that is, black females had lower IQs than black males. For example, white females had higher WAIS-R IQs than white males for 18-19 year olds; .3, 2.4, and 1.3 points higher for verbal, performance, and full scale IQs, respectively. In this same age range, black males had higher WAIS-R IQs than black females; 6.3, 3.0, and 4.9 points, respectively. Overall, as it might be expected, these differences between the sexes were slight and tended to cancel each other out.

Occupational Group Differences

Table 3 presents means and standard deviations of WAIS-R IQs for six occupational groups. It must be noted that for the groups aged 16-17 and 18-19 years, the standardization sample was stratified according to the occupation of the head of the subject's household. This table shows a clear relationship between the mean WAIS-R IQs and

the occupational groups. Occupational group 1 consisted of professional and technical workers. Males in this group averaged 113.4 on verbal IQ, 104.4 on performance IQ, and 112.9 on full scale IQ. Females in this same group averaged 108.4, 107.1, and 108.6, respectively. Whites in occupational group 1 were 19.6, 13.7, and 19.0 points higher than blacks on verbal, performance and full scale IQs. This may be due, in part, to the low number of blacks in this group (N=10), but blacks were substantially lower than whites across every occupational group. Females were slightly lower than males across occupational groups for the three WAIS-R IQs except for occupational group 5 (laborers, farm laborers, and farm foremen) where females had slightly higher WAIS-R IQs.

For the total sample on all three WAIS-R IQs, occupational group 1 (professional and technical workers) ranked first; occupational group 2 (managers and administrators, clerical and sales workers) ranked second; occupational group 6 (not in the labor force, such as homemakers, full-time students, persons unemployed for reasons of health, retired persons, and others actively seeking employment) ranked third; occupational group 3 (craftsmen and foremen) ranked fourth; occupational group 4 (operatives, service workers, farmers and farm managers) ranked fifth; and occupational group 5 (laborers, farm laborers, and farm foremen) ranked sixth. The largest differences between occupational group 1 and group 5 on verbal, performance, and full scale IQs were 22.4, 17.5, and 22.0 points, respectively. Although the sex differences were not large enough to make a practical difference, as noted earlier, the differences between blacks and whites were again substantial, as were the differences across occupational groups.

Urban-Rural Differences

As shown in Table 4, the average IQs of the urban adults for the total sample were approximately 2 points higher than rural adults on verbal IQ (2.4 points) and full scale IQ (1.9 points). However, even this difference decreased to .6 points on performance IQ. The only scale on which average rural IQs were higher than average urban IQs was performance IQ between urban and rural males, but this difference was practically meaningless at .2 points. The differences between urban males and urban females were approximately the same as those between rural males and rural females, with an approximate 2 point difference in favor of the males on all three WAIS-R IQs. Black adults were again substantially lower than white adults on the WAIS-R IQs. The differences between black and white urban adults were 14.2 points on both verbal and performance IQs, and 15.1 points on full scale IQ. The differences between black and white rural adults were 11.4 on verbal IQ, 14.9 on performance IQ, and 13.4 on full scale IQ. Over the years, the differences between urban and rural IQs have become smaller (Kaufman & Doppelt, 1976). The difference of .6 to 2.4 IQ points in the total sample for the WAIS-R IQ represents a continuation of this trend. It is reasonable to assume that this small difference in favor of urban adults may be due to other factors or of no practical significance.

Regional Differences

Results showing the distributions of average WAIS-R IQs across geographic regions for males, females, whites, blacks, and the total sample are shown in Table 5. The United States was divided into four major geographic regions specified in the Census report: 1)

Northeast, 2) North Central, 3) South, and 4) West. The largest difference between average regional IQs on the total sample was found between adults in the Northeast (101.7) and adults in the South (97.9) on full scale IQ. This difference is small and well within the normal range. The small 2 point difference between males and females may be seen again within each regional classification. For example, on full scale IQ, males living in the Northeast are 2.1 points higher than females also living in the Northeast. The large 14 to 15 point IQ difference between blacks and whites was also evident as shown by the 14.3 point difference between whites from the Northeast (103.1) and blacks from the Northeast (88.8) on full scale IQ. The lowest average IQs were found in black adults from the North Central region of the United States (83.7 on verbal IQ, 82.3 on performance IQ, and 82.0 on full scale IQ). It should be noted that this average was calculated on only 26 black adults from this region of the country.

Educational Differences

Table 6 displays the WAIS-R IQs for males, females, blacks, whites, and the total sample for six educational groups. Educational attainment was divided into six categories according to the number of years of school completed: 1) 0-7 years, 2) 8 years, 3) 9-11 years, 4) 12 years or high school equivalent (e.g. GED), 5) 13-15 years, and 6) 16 years and over. WAIS-R IQs increased with the increase in years of education within all groups of males, females, whites, and blacks, as well as the total sample. The one exception to this was black adults with 13-15 years of education who had slightly higher performance IQs than black adults with 16 years or more of education. This may be due, in part, to the small number in these groups with 11 black adults in group 5 and 9 black adults in group 6. The

differences due to educational attainment are quite large when the two most extreme educational groups are compared. This holds up within the groups of males, females, blacks, whites, and the total sample on all three WAIS-R IQs. For example, on verbal IQ, adults with less than 8 years of education had average IQs of 82.2 points versus 115.7 points for those adults with at least four years of college (a 33.5 point difference). On performance IQ, this was 84.5 versus 111.2 points (a 26.7 point difference), while on full scale IQ this was 82.2 compared to 115.3 points (a 33.1 point difference). The differences between males and females within an educational group were again slight and approximately 2 points higher for males. For example, on performance IQ, males with 8 years of education were 2.1 points higher than females with 8 years of education. The differences in verbal IQ at specific educational levels for blacks and whites ranged from 5.3 points (whites higher than blacks in educational level 1) to 18.6 points (whites higher than blacks in educational level 6). On performance IQ, whites were 8.6 points higher than blacks at the lowest educational level and 14.6 points higher than blacks at the highest educational level. On full scale IQ, these differences were 6.6 points in favor of whites with less than 8 years of education and 19.0 points in favor of whites with 16 or more years of education.

Conclusions

Many of these findings are parallel to the findings of Kaufman and Doppelt (1976) for children's IQ on the WISC-R. These include the findings on WAIS-R IQs for differences due to sex, race, occupation, urban-rural residence, and region of the country. The differences due to sex, urban-rural residence and geographic region were slight and

not meaningful in any practical sense. However, regional differences were greater for blacks, and blacks were lower than whites in all of the classifications. Also, there were substantial IQ differences among the six occupational groups for males, females, blacks, and whites. This study looked at the additional factor of educational attainment with years of education categorized into six groups. There were substantial IQ differences among these groups for males, females, blacks, and whites.

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Table 1

Means and Standard Deviations of WAIS-R IQs for Standardization Sample by Sex, Age, and Race

AGE GROUP	WAIS-R VERBAL IQ			WAIS-R PERFORMANCE IQ			WAIS-R FULL SCALE IQ		
	Males	Females	Diff. in Mean[a]	Males	Females	Diff. in Mean[a]	Males	Females	Diff. in Mean[a]
16 - 17:									
N	100	100	...	100	100	...	100	100	...
M	100.9	99.4	1.5	101.2	99.5	1.7	101.1	99.2	1.9
SD	16.0	13.6	...	15.9	14.1	...	16.2	13.4	...
18 - 19:									
N	100	100	...	100	100	...	100	100	...
M	98.3	97.6	.7	97.2	98.7	-1.5	97.7	98.0	- .3
SD.....	13.9	15.1	...	13.8	16.6	...	13.8	15.7	...
20 - 24:									
N	100	100	...	100	100	...	100	100	...
M	100.4	99.7	1.3	100.7	99.4	1.3	100.8	99.7	1.1
SD.....	15.2	14.0	...	14.3	15.6	...	15.3	14.7	...
25 - 34:									
N	150	150	...	150	150	...	150	150	...
M	101.9	98.0	3.9	101.8	99.2	2.6	101.9	98.1	3.8
SD.....	15.4	14.9	...	15.8	16.0	...	15.8	15.8	...
35 - 44:									
N	125	125	...	125	125	...	125	125	...
M	100.8	97.1	3.7	101.2	98.3	1.9	101.1	97.6	3.5
SD.....	15.4	15.2	...	15.1	15.4	...	15.6	15.5	...
45 - 54:									
N	125	125	...	125	125	...	125	125	...
M	101.8	99.9	1.9	101.5	98.9	2.6	101.8	99.2	2.6
SD.....	14.8	15.1	...	16.3	13.8	...	15.6	14.4	...
55 - 64:									
N	80	80	...	80	80	...	80	80	...
M	101.3	98.5	2.8	100.9	99.1	1.8	101.4	98.6	2.8
SD.....	14.8	14.4	...	15.6	14.1	...	15.2	14.6	...

Table 1 (Continued)

AGE GROUP	WAIS-R VERBAL IQ Males	Females	Diff. in Mean[a]	WAIS-R PERFORMANCE IQ Males	Females	Diff. in Mean[a]	WAIS-R FULL SCALE IQ Males	Females	Diff. in Mean[a]
65 - 69:									
N	80	80	...	80	80	...	80	80	...
M	100.6	99.3	1.3	99.8	99.6	.2	100.3	99.5	.8
SD	15.6	15.5	...	15.1	15.7	...	15.2	16.2	...
70 - 74:									
N	80	80	...	80	80	...	80	80	...
M	101.6	99.1	1.5	99.9	100.5	- .6	101.3	99.6	1.7
SD	14.7	14.2	...	14.2	14.4	...	14.4	14.3	...
WHITES 16-74:									
N	836	828	...	836	836	...	836	828	...
M	102.3	100.2	2.1	102.0	100.8	2.8	102.4	100.4	2.0
SD	14.7	14.3	...	14.7	14.7	...	14.8	14.6	...
BLACKS 16-74:									
N	93	99	...	93	99	...	93	99	...
M	88.2	87.5	.7	88.0	86.7	1.3	87.3	86.4	.9
SD	13.1	13.2	...	14.8	12.4	...	13.6	12.3	...
TOTAL WAIS-R 16-74:									
N	940	940	...	940	940	...	940	940	...
M	100.9	98.7	2.2	100.6	99.2	1.4	100.9	98.7	2.2
SD	15.1	14.7	...	15.2	15.1	...	15.3	15.0	...

[a]Difference equals mean IQ for males minus mean IQ for females.

Table 2

Means and Standard Deviations of WAIS-R IQs for Standardization Sample by Age and Sex For Blacks and Whites

AGE GROUP	WAIS-R VERBAL IQ			WAIS-R PERFORMANCE IQ			WAIS-R FULL SCALE IQ		
	Males	Females	Diff. in mean[a]	Males	Females	Diff. in mean[a]	Males	Females	Diff. in mean[a]
16 - 17:									
Blacks									
N	14	12	...	14	12	...	14	12	...
M	86.4	90.5	-4.1	85.6	88.0	-2.4	85.4	88.7	-3.3
SD	16.9	13.9	...	15.6	12.8	...	16.5	13.1	...
Whites									
N	85	87	...	85	87	...	85	87	...
M	103.4	100.5	2.9	103.8	100.8	3.0	103.8	100.4	3.4
SD	14.6	13.2	...	14.6	13.3	...	14.8	12.7	...
18 - 19:									
Blacks									
N	13	11	...	13	11	...	13	11	...
M	90.6	84.3	6.3	89.2	86.2	3.0	89.1	84.2	4.9
SD.....	13.2	14.5	...	13.3	17.9	...	13.6	15.7	...
Whites									
N	86	86	...	86	86	...	86	86	...
M	99.4	99.7	- .3	98.2	100.6	-2.4	98.8	100.1	-1.3
SD.....	13.6	14.4	...	13.6	16.0	...	13.5	14.9	...
20 - 24:									
Blacks									
N	10	12	...	10	12	...	10	12	...
M	87.5	89.8	-2.3	90.7	85.4	5.3	87.7	86.8	.9
SD	9.2	14.7	...	14.8	9.0	...	11.2	10.5	...
Whites									
N	88	87	...	88	87	...	88	87	...
M	101.8	101.1	.7	101.8	101.5	.3	102.2	101.6	.6
SD	15.3	13.5	...	13.9	15.4	...	15.2	14.4	...
25 - 34:									
Blacks									
N	13	15	...	13	15	...	13	15	...
M	87.5	88.8	-1.3	85.1	88.3	-3.2	85.5	87.3	-1.8
SD	13.7	10.2	...	13.5	12.3	...	13.9	10.3	...
Whites									
N	134	131	...	134	131	...	134	131	...
M	103.5	99.7	3.8	103.6	100.9	2.7	103.7	100.0	3.7
SD	14.9	14.7	...	15.2	15.8	...	15.1	15.7	...

Table 2 (Continued)

AGE GROUP	WAIS-R VERBAL IQ Males	Females	Diff. in mean[a]	WAIS-R PERFORMANCE IQ Males	Females	Diff. in mean[a]	WAIS-R FULL SCALE IQ Males	Females	Diff. in mean[a]
35 - 44:									
Blacks									
N	12	16	...	12	16	...	12	16	...
M	86.1	87.6	-1.5	88.8	88.0	.8	86.6	97.3	- .7
SD	11.5	13.6	...	15.8	9.3	...	13.4	11.5	...
Whites									
N	112	108	...	112	108	...	112	108	...
M	102.3	98.5	3.8	102.5	99.8	2.7	102.6	99.1	3.5
SD	15.0	15.1	...	14.6	15.6	...	15.1	15.5	...
45 - 54:									
Blacks									
N	11	12	...	11	12	...	11	12	...
M	88.9	86.3	2.6	87.4	85.3	2.1	87.4	85.1	2.3
SD	13.9	16.2	...	17.7	11.9	...	15.9	14.2	...
Whites									
N	112	111	...	112	111	...	112	111	...
M	102.8	101.6	1.2	102.7	100.4	2.3	103.0	100.9	2.1
SD	14.3	14.4	...	15.6	13.3	...	15.0	13.7	...
55 - 64:									
Blacks									
N	7	7	...	7	7	...	7	7	...
M	95.7	82.1	13.6	97.1	79.7	17.4	95.9	80.6	15.3
SD	9.0	7.6	...	14.4	10.1	...	9.5	7.9	...
Whites									
N	72	72	...	72	72	...	72	72	...
M	102.1	100.3	1.8	101.5	101.1	.4	102.1	100.5	1.6
SD	15.2	13.9	...	15.7	13.0	...	15.6	14.0	...
65 - 69:									
Blacks									
N	8	7	...	8	7	...	8	7	...
M	84.9	88.1	-3.2	83.1	87.9	-4.8	83.5	87.6	-4.1
SD	17.2	17.5	...	14.8	19.0	...	15.7	18.7	...
Whites									
N	72	73	...	72	73	...	72	73	...
M	102.3	100.4	1.9	101.6	100.7	.9	102.2	100.7	1.5
SD	14.5	15.0	...	14.1	15.1	...	14.0	15.6	...

Table 2 (Continued)

AGE GROUP	WAIS-R VERBAL IQ Males	Females	Diff. in mean[a]	WAIS-R PERFORMANCE IQ Males	Females	Diff. in mean[a]	WAIS-R FULL SCALE IQ Males	Females	Diff. in mean[a]
70 - 74:									
Blacks									
N	5	7	...	5	7	...	5	7	...
M	88.8	87.9	.9	87.8	89.7	-1.9	87.6	87.6	0.0
SD	7.4	10.5	...	14.3	12.7	...	9.0	11.2	...
Whites									
N	75	73	...	75	73	...	75	73	...
M	102.4	100.1	2.3	100.7	101.5	- .8	102.2	100.7	1.5
SD	14.7	14.1	...	13.9	14.3	...	14.3	14.1	...

[a]Difference equals mean IQ for males minus mean IQ for females.

Table 3

Means and Standard Deviations of WAIS-R IQs of Standardization Sample By Occupation Group, Sex, and Race

GROUP	WAIS-R VERBAL IQ						WAIS-R PERFORMANCE IQ						WAIS-R FULL SCALE IQ					
	Occupation Group						Occupation Group						Occupation Group					
	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
Males 16 - 74:																		
N	117	202	166	235	52	168	117	202	166	235	52	168	117	202	166	235	52	168
M	113.4	106.0	99.1	94.3	88.7	100.8	109.4	104.0	102.3	95.3	90.3	99.3	112.9	105.6	100.3	94.4	88.7	100.3
SD	12.3	12.6	11.4	13.9	15.8	16.0	13.8	13.7	13.7	15.0	15.2	15.1	12.9	13.3	12.3	14.4	15.4	15.5
Females 16 - 74:																		
N	89	207	47	169	16	412	89	207	47	169	16	412	89	207	47	169	16	412
M	108.4	102.7	96.0	90.4	89.5	98.6	107.1	102.8	97.7	93.5	92.8	98.4	108.6	102.7	96.5	91.0	90.1	98.4
SD	12.9	11.7	13.5	12.7	14.3	15.3	14.2	12.5	13.0	15.3	16.6	15.4	13.8	11.7	13.2	13.4	15.1	15.6
Whites 16 - 74:																		
N	191	378	200	329	51	515	191	378	200	329	51	515	191	378	200	329	51	515
M	112.4	105.1	98.6	94.4	90.6	100.8	109.2	104.2	101.8	96.4	93.4	100.2	112.2	105.0	99.8	94.8	91.3	100.6
SD	12.1	11.9	12.0	13.2	15.9	15.2	14.0	12.5	13.6	14.8	15.2	15.0	13.0	12.0	12.6	13.6	15.4	15.3
Blacks 16 - 74:																		
N	10	29	9	68	16	60	10	29	9	68	16	60	10	29	9	68	16	60
M	92.8	95.4	95.7	85.1	83.8	86.5	95.5	92.1	93.9	85.9	83.3	85.4	93.2	93.2	94.4	84.6	82.4	85.2
SD	9.8	13.3	10.2	12.7	13.1	12.5	9.9	15.6	13.4	13.8	14.5	11.5	9.4	14.6	11.3	13.0	13.4	11.1
Total WAIS-R 16 - 74:																		
N	206	409	213	404	68	580	206	409	213	404	68	580	206	409	213	404	68	580
M	111.3	104.3	98.4	92.7	88.9	99.2	108.4	103.4	101.3	94.5	90.9	98.7	111.0	104.1	99.5	93.0	89.0	98.9
SD	12.8	12.3	11.9	13.5	15.3	15.5	14.0	13.1	13.7	15.2	15.5	15.3	13.4	12.6	12.6	14.1	15.2	15.6

TABLE 4

Means and Standard Deviations of WAIS-R IQs of Standardization Sample by Urban-Rural Residence, Sex, and Race

Group	WAIS-R VERBAL IQ			WAIS-R Perform. IQ			WAIS-R Full Scale IQ		
	Urban	Rural	Diff. in Mean[a]	Urban	Rural	Diff. in Mean[a]	Urban	Rural	Diff. in Mean[a]
Males 16-74:									
N	689	251	...	689	251	...	689	251	...
M	101.5	99.3	2.2	100.5	100.7	- .2	101.3	99.9	1.4
SD	15.1	14.8	...	15.3	15.0	...	15.4	15.1	...
Females 16-74:									
N	732	208	...	732	208	...	732	208	...
M	99.3	96.4	2.9	99.6	97.7	1.9	99.3	96.6	2.7
SD	14.9	13.8	...	15.0	15.4	...	15.1	14.4	...
Whites 16-74:									
N	1237	427	...	1237	427	...	1237	427	...
M	102.1	98.8	3.3	101.8	100.3	1.5	102.1	99.3	2.8
SD	14.5	14.2	...	14.6	15.0	...	14.7	14.5	...
Blacks 16-74:									
N	167	25	...	167	25	...	167	25	...
M	87.9	87.4	.5	87.6	85.4	2.2	87.0	85.9	1.1
SD	12.8	15.4	...	13.5	14.3	...	12.6	15.5	...
TOTAL WAIS-R 16-74:									
N	1421	459	...	1421	459	...	1421	459	...
M	100.4	98.0	2.4	100.0	99.4	.6	100.3	98.4	1.9
SD	15.0	14.4	...	15.1	15.3	...	15.2	14.9	...

[a]Difference equals mean IQ for urban adults minus mean IQ for rural adults.

Table 5

Means and Standard Deviations of WAIS-R IQs of Standardization Sample By Geographic Region, Sex, and Race

GROUP	WAIS-R VERBAL IQ				WAIS-R PERFORMANCE IQ				WAIS-R FULL SCALE IQ			
	NE	NC	S	W	NE	NC	S	W	NE	NC	S	W
Males 16 - 74:												
N	243	231	291	175	243	231	291	175	243	231	291	175
M	102.6	99.8	100.0	101.6	102.2	100.9	98.0	102.3	102.7	100.2	92.2	102.1
SD	15.8	14.7	15.3	14.1	15.6	14.5	15.7	14.3	15.8	14.6	15.8	14.3
Females 16 - 74:												
N	222	266	285	167	222	266	285	167	222	266	285	167
M	100.7	97.5	97.2	100.4	100.6	99.5	96.3	101.5	100.6	98.1	96.6	100.9
SD	13.6	13.8	16.0	14.6	14.2	14.3	16.6	14.0	14.0	13.9	16.6	14.6
Whites 16 - 74:												
N	415	464	465	320	415	464	465	320	415	464	465	320
M	103.1	99.5	101.0	101.7	102.7	101.2	99.5	102.6	103.1	100.2	100.5	102.3
SD	14.4	14.0	15.1	14.2	14.5	14.0	15.8	13.9	14.5	13.9	15.8	14.2
Blacks 16 -74:												
N	46	26	108	12	46	26	108	12	46	26	108	12
M	89.1	83.7	88.2	89.7	90.2	82.3	87.0	89.8	88.8	82.0	86.9	88.8
SD	12.5	10.2	14.0	11.8	14.3	10.2	13.9	12.0	13.3	9.5	13.5	10.9
TOTAL WAIS-R 16 - 74:												
N	465	497	576	342	465	497	576	342	465	497	576	342
M	101.7	98.6	98.6	101.0	101.4	100.2	97.2	101.9	101.7	99.1	97.9	101.5
SD	14.8	14.3	15.7	14.3	15.0	14.4	16.2	14.2	15.0	14.2	16.2	14.4

Note: The geographic regions are Northeast (NE), North Central (NC), South (S), and West (W).

Table 6

Means and Standard Deviations of WAIS-R IQs of Standardization Sample By Education Group, Sex and Race

GROUP	WAIS-R VERBAL IQ						WAIS-R PERFORMANCE IQ						WAIS-R FULL SCALE IQ					
	Education Group						Education Group						Education Group					
	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
Males 16 - 74:																		
N	67	84	242	303	113	131	67	84	242	303	113	131	67	84	242	303	113	131
M	82.6	91.8	96.8	100.8	109.0	116.8	85.0	94.1	98.3	100.5	106.7	111.8	82.7	92.2	97.2	100.7	108.6	116.2
SD	12.3	10.8	14.0	11.9	10.7	11.5	14.4	14.6	15.2	13.0	11.7	13.1	12.4	11.9	14.6	12.3	10.6	12.2
Females 16 - 74:																		
N	66	74	230	349	138	83	66	74	230	349	138	83	66	74	230	349	138	83
M	81.8	88.4	95.2	99.5	106.6	114.0	84.0	92.0	97.2	99.9	104.9	110.3	81.7	89.1	95.6	99.5	106.3	113.8
SD	14.9	11.1	13.6	12.2	10.9	11.5	15.5	14.0	14.4	13.9	12.2	12.9	14.9	11.9	13.9	12.8	11.4	12.0
Whites 16 - 74:																		
N	101	133	405	584	239	202	101	133	405	584	239	202	101	133	405	584	239	202
M	83.4	91.3	97.4	101.1	108.3	116.5	86.5	94.5	99.5	101.3	106.0	111.9	83.7	92.0	98.0	101.2	107.9	116.1
SD	14.2	10.6	13.5	11.7	10.5	11.1	14.9	14.3	14.2	13.3	11.9	12.9	13.9	11.7	13.8	12.2	10.8	11.7
Blacks 15 - 74:																		
N	31	22	65	54	11	9	31	22	65	54	11	9	31	22	65	54	11	9
M	78.1	84.8	87.8	91.9	94.1	97.9	77.9	85.9	86.4	90.6	97.6	97.3	77.1	84.6	86.3	90.5	94.8	97.1
SD	10.9	11.4	13.1	12.6	9.6	9.0	13.3	12.0	13.1	12.4	12.9	8.1	11.7	11.2	12.9	11.8	10.5	8.7
Total WAIS-R 16 - 74:																		
N	133	158	472	652	251	214	133	158	472	652	251	214	133	158	472	652	251	214
M	82.2	90.2	96.1	100.1	107.7	115.7	84.5	93.1	97.8	100.2	105.7	111.2	82.2	90.7	96.4	100.1	107.4	115.3
SD	13.6	11.0	13.8	12.1	10.9	11.6	14.9	14.3	14.8	13.5	12.0	13.0	13.6	12.0	14.3	12.6	11.1	12.2